

CLAIMS

What is claimed is:

1. A method of determining whether a stimulus is capable of activating a candidate cis-acting regulatory element in an immunocyte, wherein said cis-acting regulatory element is regulated by at least one transcription factor or enhancer, and wherein said stimulus is known to modulate expression of a signaling pathway, said method comprising the steps of:
 - (a) transfecting said immunocyte with a recombinant adenovirus, said recombinant adenovirus comprising a reporter gene operatively linked to said candidate cis-acting regulatory element;
 - (b) measuring a base level of reporter gene activity;
 - (c) applying said stimulus to said immunocyte; and
 - (d) measuring reporter gene activity in response to said stimulus.
2. The method of Claim 1 wherein said stimulus comprises modulating expression of a regulatory protein and said applying step (c) comprises modulating the expression of said regulatory protein.
3. The method of Claim 2 further comprising the step of co-transfected said immunocyte with an expression system for said regulatory protein.
4. The method of Claim 1 wherein said applying step (c) comprises introducing a candidate regulatory compound.
5. The method of Claim 1 wherein said reporter gene is selected from the group consisting of: luciferase, green fluorescent protein (“GFP”), β-galactosidase (“GAL”), chloramphenicol acetyltransferase (“CAT”).
6. The method of Claim 1 wherein said reporter gene is a suppressor gene.

7. The method of Claim 6 wherein said suppressor gene is IkBsd.
8. The method of Claim 1 wherein said cis-acting regulatory element is modulated by regulatory proteins related to inflammation.
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9. The method of Claim 1 wherein said cis-acting regulatory element is selected from the group consisting of: AP-1, CRE, ISRE, NFAT, NF κ B, and SRE.
10. The method of Claim 1 wherein said immunocyte is selected from the group consisting of: macrophage, CD4 $^{+}$ T cell, and immature dendritic cell.
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11. A method of inhibiting expression of a signaling pathway in an immunocyte comprising the steps of:
 - (a) transfecting said immunocyte with a recombinant adenovirus, wherein said recombinant adenovirus comprises a suppressor gene operatively linked to a cis-acting regulatory element, wherein said cis-acting regulatory element belongs to said signaling pathway; and
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 - (b) inducing expression of said suppressor gene.
20. 12. The method of Claim 11 wherein said signaling pathway is the NF κ B signaling pathway.
13. The method of Claim 11 wherein said suppressor gene is IkBsd.
14. The method of Claim 11 wherein said immunocyte is selected from the group consisting of: macrophage, CD4 $^{+}$ T cell, and immature dendritic cell.
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